

AN EXAMINATION OF THE EFFECTS OF
SPATIAL, MOTIVATIONAL, AND LEADERSHIP FACTORS
ON THE PERFORMANCE-PRODUCTIVITY OF
THE STAFF OF THE GEORGIA EDUCATION
IMPROVEMENT COUNCIL - ATLANTA, GEORGIA

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ABSTRACT
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The primary intent of this paper is to examine the effect of spatial, motivational, and leadership factors upon the performance-productivity of the staff of the Georgia Education Improvement Council. An attempt has been made to highlight the type of problems encountered by the staff due to inadequate work space and to show how motivational and leadership factors have contained this spatial difficulty.

The main sources of information were observations made during a twelve-week internship with the Georgia Education Improvement Council in the summer of 1978, direct interviews granted by the members of the agency's staff, and the responses they gave to questionnaires. Secondary information was obtained from various magazines and books such as: Psychology Today, Nature, Leadership and Productivity, Improving Total Productivity, Classics of Organizational Behavior, The Scanlon Way to Improved Productivity: A Practical Guide, Personnel Administration: A Point of View and A Method, and Crowding and Behavior.

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I. INTRODUCTION

Worker performance-productivity has been the concern of management since the evolution of organizations. Down through the decades, this phenomenon has been studied from various points of view. Researchers have manipulated factors in the worker's environment in an attempt to isolate their effects upon the quality and quantity of worker output.

The information supplied by these research undertakings brought into focus points that were important to the advancement of a developing "management science." Yet, with all the work done in this area, little investigation has been directed toward the examination of the effects of limited space, either in isolation or in combination with other factors, upon worker performance-productivity. Since the United States is faced with an ever-growing work force and increasingly limited room for architectural expansion, this seems to be an area that constitutes a need for further study. The purpose of this study, therefore, is to examine the effect of inadequate work space, along with the motivational and leadership factors, upon the performance of a specific group of workers.

II. PROBLEM AND ITS SETTING

Background of the Agency.

The Georgia Education Improvement Council was created as an agency of the Legislative Branch of State Government in 1972, having served prior to that time as an agency of the Executive Branch since 1964. In keeping with its legislative responsibilities, the Council membership was also amended in 1972. The Council is composed of ten members: the President of the Senate, the Speaker of the House of Representatives, two Representatives appointed by the Speaker, two Senators appointed by the President of The Senate, the Chairman of the Education Committees of the House and Senate, the Chairman of the Higher Education Committee of the Senate, and the Chairman of the House University Systems of Georgia Committee. . . .¹

However, the staff of the Council, the subject of this study, is a group of seven individuals: an executive director, four researcher, and two secretaries housed in a five-room office suite. The staff's size and circumstance allowed for observation of the group in its natural setting.

The primary duty of the Georgia Education Improvement Council is to study the educational needs in Georgia in order to assist the General Assembly in connection with educational matters. This charge is given in further clarification in the law (See Appendix A) in which the staff is directed to perform research and otherwise provide assistance for members of the General Assembly and committees thereof, and carry out other duties as may be directed by the Council.

The Georgia Education Improvement Council's objective is accomplished through studies of present problems and identification of long-range needs in education, cooperative projects, and studies with public and private non-profit educational agencies and institutions of educational data, and supportive and consultative services supplied on

¹ ¹Georgia Education Improvement Council, Objectives, Atlanta, 1980.

request to educational agencies, legislative committees, and educational institutions. . . .²

During the summer of 1978, the writer interned with the Georgia Education Improvement Council (GEIC) for a twelve-week period in the capacity of research assistant. The position required an undertaking of research in the area of vocational education in the State of Georgia, its structural organization, and its program of delivery. The main purpose was to gather, analyze, and succinctly compile relevant data that would eventually become a part of an in-depth study to be presented to the State Legislative Subcommittee on Education. In order to fulfill the responsibilities of the job, it was necessary to review printed material obtained from various sources, to interview state officials involved in the area of vocational education, and to attend meetings organized for the discussion of issues regarding the direction and problems of vocational education in Georgia.

Statement of the Problem.

The main problem confronting the staff of GEIC is the lack of adequate office space in which to carry out their respective tasks. Although this is not directly related to the main function of the agency, it affects the flow of work performed by the agency.

The research nature of the Council's charge and its organizational structure make it possible for four or more projects to be handled by the agency at any given time, each

²Ibid.

requiring progress reports in sufficient numbers. The agency has no separate conference or work room; it is necessary for the staff to complete the final steps of written report preparation (e.g. reproducing printed copy, collating, binding), wherever possible. Often, office space of researchers, other than the one who authors the report, has to be used for a phase of the preparation. This includes the reception area as well as the office space of the Council's executive director.

This overflow of activity understandably disrupts work already in progress. Due to the cohesiveness of the group, each staff member avails himself of helping in whatever way possible to complete the compilation of the report at hand. While this cooperation is commendable and absolutely necessary, it raises a question: If the work pattern of GEIC is altered to such an extent during the final stages of report preparation due to limited space, how does the lack of adequate work space affect the overall work habits, performance, and efficiency of the agency.

III. METHODOLOGY

The case study method of analysis was used in the study of the staff of the Georgia Education Improvement Council. Data collected in the study was obtained through (1) observer-participation, (2) questionnaires, and (3) direct interviews.

The observer-participation aspect of the study provided first-hand information about the agency's daily activity pattern, its report preparation procedures, its method of handling clerical work-overflow, the amount of work done outside the office, the interaction among the staff members, and the leadership style of the executive director. This information served as the framework for the questionnaires and the direct interviews.

The questionnaire was used to determine staff motivation, attitudes, perceptions, and expectations. The questionnaire, a modified version of the preliminary scanlon plan³ survey combined with a productivity checklist indicator for research and development employees (See Appendix C, Part VI), was evaluated by using three arithmetic operations to capsule the data: simple percentages, means, and percentage

³The scanlon plan is a productivity-improvement tool designed to be administered organization-wide in an attempt to focus the attention of workers and all levels of management on productivity.

differences.⁴

The questionnaire was divided into six parts. Most of the questions in Parts I through IV were "scaled to give a feeling for the magnitude of each dimension; the higher the score, the more positive the result."⁵ Parts I through IV measures job satisfaction, cooperation and communication, attitudes, and performance, respectively. Part V involves the difference scores; the smaller the score, the more positive the result. Part V measures the perceived difference between what the work situation is and what the staff members think it should be. The productivity checklist indicator constitutes Part VI.

In Parts I through IV, the summed responses were divided by the total number of people who answered the questions. "The resulting percentages were expressed as 'those agreeing on (the question) as a given percent' for the agency."⁶

Further computations involved determining the mean for each question in Parts I through IV.

. . . The total of each question category was multiplied by the weight (value: 1 to 5 with five being the highest), of each item. Then the grand total of the products was divided by the number of returns to ascertain the average weight. The higher the average weight, the greater the level of satisfaction and alignment with organizational policy and practice. . . .⁷

⁴Brian E. Moore and Timothy L. Ross, The Scanlon Way to Improved Productivity: A Practical Guide, (New York: John Wiley and Sons, Inc., 1978), p. 137.

⁵Ibid.

⁶Ibid. p. 180.

⁷Ibid.

In Part V, the purpose was to determine the difference between "actual" and "ideal" at one point in time.

. . . The difference was . . . multiplied by the assigned weight (value: 1 to 7 with seven being the highest) which was the magnitude of a given attribute. The higher the score, the greater the perceived difference. The ideal difference score [is] zero. This . . . mean[s] an identity of individual needs and the organizations's ability to provide them. The scores were divided by the total responding to make the average weight a meaningful statistic. This mean has a range of values [from] 0, which is ideal, to 42. . . .⁸

Part VI was a measurement using a productivity checklist indicator. This checklist "represented judged actions by experienced practitioners, that would be needed by high-producing research and development employees."⁹ The productivity indicator index was calculated as follows:

$$\text{Productivity index} = \frac{\text{Checklist indicators completed}}{\text{Total indicators}}^{10}$$

This assessment techniques is more valuable when used with a comparison over various periods. However, in this study, it was a one-time evaluation used to determine how each employee views his productivity as well as to compare the overall employees' assessment of their group performance to that of their supervisor.

The culminating data-gathering stage of the study, the direct interviews, provided an opportunity to focus on the problems caused by the size and design of the office facility.

⁸Ibid.

⁹Paul Mali, Improving Total Productivity, (New York: John Wiley and Sons, Inc., 1978), p. 100.

¹⁰Ibid.

Attention was directed toward outlining how activity and behavior are shaped to accommodate the office facility.

IV. ANALYSIS OF DATA AND FINDINGS

Productivity is usually defined in economic terms as being the ratio of input to output. The need to include the white-collar work force in productivity assessment necessitates the broadening of the definition. "George Kuper, (a former) acting director of the National Commission on Productivity and Work Quality, thinks of productivity as a combination of effectiveness and efficiency."¹¹ Paul Mali, in Improving Total Productivity, agrees with the effectiveness-efficiency approach. He explains productivity as follows:

. . . It is achieving the highest results possible while consuming the least amount of resources. How well resources are brought together and utilized is indicated by comparing the magnitude or volume of results (effectiveness), with the magnitude and volume of resources, often called input (efficiency).¹²

The effectiveness of the Georgia Education Improvement Council's staff is measured by its ability to carry out the tasks for which it was created (See Appendix A, Section 2); namely: (1) its ability to provide the General Assembly with thoroughly researched data describing the environment and relationships that exist and are relevant to the educational issues that are before the Legislature; and (2) the assistance it provides to organizations that deal with educational

¹¹Ibid. p. 7.

¹²Ibid.

concerns. The efficiency with which GEIC carries out its tasks is the major concern of this paper. It was observed during the internship that various components of the staff's activities were, in fact, inefficient. The inefficiencies, however, can be attributed more to the size and design of the office facility rather than to any shortcomings of the staff.

The office suite of GEIC consists of five rooms (See Appendix B). The reception room, located in the center of the suite, measures approximately $12\frac{1}{2}$ feet by $23\frac{1}{2}$ feet. It serves multifarious purposes. The two secretaries of the agency use this area as their office. The area also houses all the active files, as well as the photocopying machine. Since the coffee-maker is also located here, it serves as the staff common room for "chit chat" and coffee breaks. Finally, this area also serves as the waiting room for visitors.

The executive director's office measures $23\frac{1}{2}$ feet in length, 12 feet in width at one point and 23 feet at another. This room serves a multi-purpose function. Apart from being the main point from which the executive director carries out his duties, it also serves as the conference room, the work room, a reference room for manuals and books, the storage room for publications disseminated by the agency, a storage area for boxed historic files, and a storage room for office supplies.

There are three offices for the four researchers. One offices measures $10\frac{1}{2}$ feet by 11 feet and is adequately furnished. The second office is actually a partitioned area

which was, at one time, a part of the reception room. It measures $10\frac{1}{2}$ feet by $8\frac{1}{2}$ feet. Neither of these offices present a problem in that each one serves as space for one researcher. The third office, however, does present problems. It measures $10\frac{1}{2}$ feet by 12 feet and has no windows. This is the work area for two researchers. This room is furnished with two full-sized desks and chairs. In addition to these items, the office has wall-length shelving units on two of its four walls which are used as additional storage space for reference materials.

Two problems dominate the circumstances of this third office area; space and privacy. The physical size of the office and furniture leave no space for free movement by the occupants. It is, for example, impossible for either of these two researchers to push his chair back from his desk and stand straight up. The lack of space does not allow for this. If one of them wishes to get up from his desk and leave the room, he has to swerve his chair to the side to stand up. From that point, there are only a few square feet to the door. The other problem, for these two researchers is the lack of privacy. By necessity, the two desks face each other with the fronts touching. Each researcher has his own telephone, but on or off the telephone, deep concentration is difficult.

Because of the investigatory nature of GEIC's charge, the staff researchers perform a good deal of their work outside of the office suite. Most of the staff agree that this circumstance eases and sometimes prevents frustration and tension

within the agency. The secretaries stated that they find it difficult to get work done when all or most of the researchers (including the executive director) are in the suite. The constant interruptions (people walking past their desks and the distraction of hearing the confusing buzz of several telephone conversations occurring at the same time) are attributable to the structural design of the office which does not provide adequate space, nor does it provide a buffer for voice volume from adjoining rooms.

The executive director's office poses a particular problem. As the largest room, other than the reception room, it is large enough to accommodate sitting space for visitors. If a private meeting is in progress, it is impossible to utilize the other services that the room provides. If the members need anything from the room (e.g. supplies or reference materials), or if they have work to be done within the room they have to wait until the meeting is concluded.

The staff researchers are reluctant to cite particular job-related difficulties they experience, but all indicated that there are inconveniences. During the direct interviews for this study, the staff members cited the following inconveniences:

1. Due to the lack of space, the individual offices do not allow room for the storage of ready-reference materials related to present assignments.
2. Due to the lack of space, the individual offices do not allow room for the seating of visitors.
3. There is no central location for reference materials. Consequently, they are difficult to find.

4. The photocopying machine obstructs the walkway.
5. Privacy and concentration are almost nonexistence.¹³

The crowded environment of the GEIC staff, in itself, could possibly affect the behavior and performance of the workers. Spatial and social density research findings in these areas are not conclusive.

Psychologist Chalsa Loo, in a spatial density experiment with children in crowded rooms, found that they "interact less and prefer less aggressive type toys." According to Loo,

. . . There was significantly fewer aggressive acts in the high-density condition than in the low-density condition, and boys displayed significantly more aggressive acts than girls. . . . To analyze the interaction between density and sex, a paired "t" test was performed to test for significant difference between . . . aggression in the low- and high-density conditions for males and females separately. While aggression in girls did not significantly differ between low- and high-density, aggression in boys was significantly higher in the low-density condition than in the higher-density condition. . . .¹⁴

But, Corrine Hutt and M. Jane Vaizey, in a similar experiment involving social density, found no significant increase in aggression in less crowded conditions, as might be expected. However, the children did show "progressively and significantly less social interaction with increasing group size."¹⁵

No one knows what the long-range effects of crowding will

¹³Interview with the staff of the Georgia Education Improvement Council, Atlanta, Georgia, 22 December 1980.

¹⁴Chalsa Loo, "The Effect of Spatial Density on the Social Behavior of Children," in *Crowding and Behavior*, ed. Chalsa Loo (New York: Arno Press, 1974). P 175.

¹⁵Corrine Hutt and M. Jane Vaizey, "Differential Effects of Group Density on Social Behavior," *Nature* (March 1966): 1372-1373.

be. Loo, in her comments, outlines what the possibilities are:

. . . Aggression, if inhibited, may not remain so over a longer period of time. Aversive stimulation such as crowding may produce negative effects built up over time, on the other hand, human beings may adapt to a restricting environment over time and negative effects may decrease..¹⁶

These studies indicate that crowded conditions do have some effect on human behavior however inconclusive the findings are regarding the long-term effects.

In the area of productivity, the evidence of the effect of crowding is also inconclusive. Paul Insel and Henry Lindgren, in their article, "Too Close for Comfort," describe Stephen Emiley's 1975 experiment involving the reactions and general productivity of students in varied social densities in which students who had worked in a high-density setting rated their working space as being less satisfactory and felt more crowded than did those who had been assigned to a low-density setting. "There was no difference, however, between the two groups in the success of performing the assigned task, nor was there any difference in their enjoyment of the experience."¹⁷ .

Emiley's study, and others like it, imply that something in addition to the crowding factor determines the level of productivity.

. . . There is now a sizable body of evidence to suggest that the "feeling" of being crowded and its accompanying loss of productivity, effectiveness, and happiness has far

¹⁶Chalsa Loo, p. 179.

¹⁷Paul M. Insel and Henry C. Lindgren, "Too Close for Comfort: Why One Person's Company is Another's Crowd," Psychology Today, December 1977, pp. 100-106.

more to do with gender, mood, personality, and attitudes toward with whom we share our space, than it has to do with crowding itself. . . .¹⁸

An example of such evidence is an experiment that was undertaken by Jeffrey D. Fisher. As described by Insel and Lindgren,

. . . In 1974 . . . Fisher . . . conducted a study of peoples attitudes toward those with whom they share social space. In Fisher's experiment, undergraduates were informed that certain individuals (actually confederates of the experimenter) had attitudes that were similar or dissimilar to theirs. These confederates then interacted with the subjects at one of four distances. Results showed that in contrast to those conversing with "dissimilar" confederates, students who interacted with "similar" confederates, judged their environment to be more aesthetically pleasant, reported feelings that they generally perceived themselves to be less crowded. . . .¹⁹

The importance of Fisher's finding is that "it seems to indicate that when we are physically close to the kind of people we like, we are inclined to feel less crowded than when we are with people who do not attract us."²⁰

A study of adult crowding, done by Michael Ross from the University of Waterloo, and Bruce Layton, Bonnie Erickson, and John Schopler, all from the University of North Carolina, indicated a difference in the effect of crowding on males and females.

The purpose of this experiment was to examine some of the consequences of crowding on human behavior. Male or female groups of eight subjects each were confined in a crowded (small) room or an uncrowded (large) room for either 5 or 20 minutes. During this period they discussed a series of "choice-dilemma" problems. Affective

¹⁸Ibid. p. 100.

¹⁹Insel and Lindgren, p. 101.

²⁰Ibid.

Subject interactions. Males rated themselves and others more positively in the uncrowded condition; females evaluated themselves and others more favorably in the crowded than in the uncrowded condition. Similarly, males tended to gaze at others' faces more often in the uncrowded room, while females tended to engage in more facial regard in the crowded room than in the uncrowded room. . . .²¹

. . . The most salient aspect of the crowding manipulation seems to be personal space. Males appear to have found the interpersonal distance in the small room too close for comfortable interaction, while females apparently found the interpersonal space in the large room to be too distant. . . .²²

In a similar line of thought, a research team from Georgia State University, described in Debra Cohen's article, "It's More Pleasant Being Crowded with a Woman," concluded through experimentation, "that both men and women react more positively to being crowded with women than with men."²³ Their finding suggests that men, "larger, more aggressive and generally more threatening, arouse unease at close quarters."²⁴

This kind of evidence could very well reflect some of the reasons why the all-male research staff of GEIC does so much of its work outside of the office suite; work involving analysis, comparison, and other things that could be done in an office setting.

Based upon the staff's past record, it seems to adequately

²¹Michael Ross and others, "Affect, Facial Regard, and Reactions to Crowding," Journal of Personality and Social Psychology, (October 1973): pp. 69-76.

²²Ibid. p. 74.

²³Debra Cohen, "It's More Pleasant Being Crowded with a Woman," Psychology Today, October 1977, p. 36.

²⁴Ibid.

meet its objectives, even though it suffers numerous inconveniences in its physical environment. The staff members, in direct interviews and in response to the questionnaire constructed as a part of this study, indicated that their performance is due to motivation, leadership, and general attitudes within the agency.

The basic motivational drive for the researchers seems to be a desire to live up to expectations that are compatible with the general self-concept they seem to have. The researchers all have work backgrounds rooted in education. All progressed from classroom teachers to principals, and two on to superintendents. Each believes he has some expertise that has to be demonstrated through accurate investigation and interpretation of data in the area of education. The fact that the information and recommendations they provide will be scrutinized by the state's highest officials compels them to press harder for thoroughness.

In survey questions with values ranging from 1 to 5 (with five being the highest), the employees rated themselves high in performance-related items (See Appendix C, Part IV). The average scores in the following areas were:

<u>Item</u>	<u>Score</u>
Quantity of work	4.3
Quality of work	4.5
Effort put into job	4.7

The responses in the survey reflect general satisfaction of the staff members with their jobs. In questions regarding job satisfaction, the average response was 4.8 out of a

possible score of 5. In items regarding interaction within the agency, the average score was 3.8.

The responses given to the questionnaire and during the direct interviews seem to support Herzberg's motivation-hygiene theory of job attitudes.

. . . The theory was first drawn from an examination of events in the lives of engineers and accountants. . . . The findings of these studies . . . suggest that the factors involved in producing job satisfaction (and motivation) are separate and distinct from the factors that lead to job dissatisfaction. . . .²⁵

As Paul Pigors and Charles Myers point out in Personnel Administration: A Point of View and a Method, according to Herzberg's theory.

. . . factors of "job content" (what an incumbent actually does at work) have a completely different effect from factors of "job context" (the environmental setting of work). The "job content" category - the Motivators - include: work itself, achievement, recognition, and responsibility. The Hygiene of Maintenance ("job content") factors include: company policy, administration, technical supervision, salary, and working condition. . . .²⁶

Although the job context factors influence worker, their effects are far outweighed by those of the job content. With the staff of GEIC, even though their physical work environment is crowded, they continue to produce.

A series of survey questions were posed to measure the difference between how the staff perceives the agency "to be" in

²⁵Frederick Herzberg, "One More Time: How Do You Motivate Employees?" in Classics of Organizational Behavior ed. Walter Natenmeyer (Oak Park: Moore Publishing Company, Inc., 1978), p. 95.

²⁶Paul Pigors and Charles A. Myers, Personnel Administration: A Point of View and a Method, (New York: McGraw-Hill, 1977), p. 102.

reality and how it believes the agency "should be" (See Appendix C, Part V). The higher the score, the greater the perceived difference. The value range established for these questions was 0, which is ideal, to 42.

The staff's perceived difference between the actual and ideal state of the agency proved to be rather small. Of all the questions requiring a comparison, the greatest difference score, on a scale of 0 to 42, was only 7.8. The two questionnaire items which yielded the 7.8 difference score related to the feeling of being informed in the job situation and the feeling of satisfactory relationships with co-workers. The item receiving the smallest difference score, thus closest to the ideal, was one related to a satisfactory relationship with the supervisor. The average score was 3.5.

Both the interview and questionnaire responses indicated strong overall support for the leadership style provided by the executive director. One staff member stated that the agency's leadership is probably the underlying factor of its level of performance. In this staff member's view, the enthusiasm, pride, and active participation of the executive director encourages the entire staff to produce more.

The executive director's style of leadership is a flexible one which varies with the circumstances, and it is enhanced by the challenge of meeting the objectives of the agency. In matters involving administration and the agency's relationship with other units in the government's organizational structure, most decisions are made by the executive director. However,

the research nature of the agency enables the executive director to delegate a great deal of authority to each researcher to design and develop investigatory tools as each sees fit in order to complete assignments. This type of freedom allows the agency to work on several problems at one time. The executive director does keep abreast of the progress of each assignment and provides guidance and assistance when necessary. This exchange between executive director and researcher is strengthened by the rapport that is rooted in the relationship at the informal level. He continuously provides encouragement which benefits each staff member in his personal life as well as in his professional life.

The general consensus of the staff is that the executive director has created a work atmosphere in which there is a "sense of accomplishment and a feeling of helping to possibly bring about needed changes in the educational system of Georgia."²⁷ This atmosphere has brought about a bond of cooperation among the members of the staff. They have become a cohesive unit with each member supporting the efforts of the others. Each staff member knows exactly what his responsibilities are, and he discharges these responsibilities realizing that he, as well as the agency, will be held accountable for any job that is less than satisfactory.

This awareness seemingly opens the lines of communication among the staff members, therefore providing an avenue for the

²⁷Interview with the staff of the Georgia Education Improvement Council, Atlanta, Georgia, 23 December 1980.

exchange of ideas and assistance. The answers to some of the survey questions indicate that the workers believe that the lines of communication within the agency are open, but concern is also expressed about not being totally informed about the overall operation of the agency.

Robert L. Katz and Mark Kahn collected data from several studies concerning the performance of a variety of work groups and the characteristics of each group's supervisor. They concluded that there are four classes of variables which appear to be consistently related to the productivity of an organization. The four classes of variables are:

1. Better supervisors spent more time in planning . . . and actual supervision rather than in straight production work.
2. Better supervisors delegated more authority to others than did poorer supervisors.
3. The more effective supervisors enjoyed more support from their subordinates and gave more attention to creating employee motivation.
4. The supervisors of the more effective groups had work units which developed greater cohesiveness among the members than those groups doing a less effective job.²⁸

The characteristics that were summarized by Kahn and Katz are clearly some of the characteristics of GEIC's leadership. But while the agency's leadership raises the level of performance, the capacity to increase the agency's efficiency is hindered by the spatial limitations of the office facility. Time is wasted while waiting for conferences and important

²⁸Robert Dublin, Leadership and Productivity, (San Francisco: Chandler Publishing Co., 1965), p. 78.

telephone conversations to be concluded so that supplies can be obtained from the executive director's office. Time is also wasted while looking for reference materials that would ideally be located in one central area, which, because of the spatial problem, are shelved throughout the suite.

Until recently, an even greater inconvenience was present at GEIC. The staff had no photocopying machine. Whenever it was necessary to reproduce materials, even file copies of correspondence, the documents had to be taken to the Department of Forestry located on the floor below GEIC. Since the Department of Forestry copies its own material, as well as providing this service for others in the building, it works on a first-come, first-served basis. This often results in a long waiting period in addition to the time it takes to carry the documents to and from the Forestry Department. The agency now has its own photocopying machine, but its presence now adds to the congestion in the office.

These examples of wasted time caused by waiting for access to office supplies and work areas affect the overall productivity-performance of the agency. According to William M. Aiken, in an article "Work Measurement and Incentives," "the typical white-collar worker's productivity ranges between 50 and 60 percent when there is no measurement of productivity."²⁹ Increases to 90 percent are possible when measurement and good

²⁹William M. Aiken, "Work Measurement and Incentives," in Handbook of Business Administration, ed. H.B. Maynard (New York: McGraw-Hill, 1967), p. 136.

management are applied.³⁰ Information supplied by the GEIC staff members on a productivity checklist was applied to a productivity index formula to obtain a productivity rating. The staff's overall productivity rating was 80 percent. The individual ratings were: 60, 65, 70, 90, 95, and 100 percent.

The productivity checklist represented actions "that would be needed by high-producing research and development employees."³¹ The productivity index rating was calculated as follows:

$$\text{Productivity index rating} = \frac{\text{Checklist indicators completed}}{\text{Total indicators}}^{32}$$

The question producing the lowest response in the productivity checklist was one that dealt with the efficient utilization of employee time. Out of six individuals, only one indicated that he uses his time efficiently.

The executive director of GEIC was asked to provide the same information about each individual working under his supervision. His assessment, when applied to the productivity index formula, resulted in an individual employee rating of 100 percent for each worker, thus a 100 percent overall productivity rating for the entire agency.

The difference between the 80 percent overall productivity index rating given by the staff and the 100 percent rating

³⁰Ibid.

³¹Mali, p. 100.

³²Ibid.

given by the executive director is likely a reflection of the position into which each individual was placed when confronted with the questionnaire. The staff members were allowed some sense of anonymity. They were directed not to sign their names on their questionnaires. Each person filled in his responses at his convenience and put his completed questionnaire into an envelope identical to those supplied to the other staff members. These envelopes were then left with one of the secretaries and later picked up for scoring. This arrangement made it possible for only the individual and the scorer to see the answers given. Since no names were supplied, the persons responding could not be identified by the scorer. On the other hand, the executive director could not be provided a sense of anonymity. His questionnaire (See Appendix D) was set up specifically for him in his official capacity as executive director. His responses probably reflect the pride he takes in his agency and his expectations of its members rather than an unbiased evaluation of individual traits.

V. CONCLUSION

The Georgia Education Improvement Council is an entity which accomplishes its objectives of investigating present educational problems in Georgia, identifying long-range educational needs in the state, and assisting public and private nonprofit organizations that are concerned with education. However, the efficiency with which the agency reaches its objectives is encumbered by the environmental limitations of inadequate space. The office size and design create inconveniences which negatively affect the daily "in-house" activities of the agency. The lack of proper storage space and adequate work space cause significant delays resulting in valuable time being spent in searching for materials and waiting for access to existing work space and supplies. Privacy and concentration within the office suite are practically nonexistent creating a source of mild tension among the staff.

The interviews and responses to questionnaire items involving interaction among the staff members affirm that some tension does, in fact, exist. However, the overall positive attitude rating reflecting interaction is slightly above the assigned value of "average." This suggests that while mild tension is present, the general attitude of the employees toward each other and their work has not been greatly affected.

This could be due to the fact that the research nature of the agency allows the researchers varying amounts of time outside the confines of the office suite, thus providing opportunities for the tension to be periodically relieved.

Despite the crowded office conditions and the presence of tension, the agency continues to attain its objectives. The findings of this study suggest that this is due to each individual staff member's motivation which is based upon self-esteem and accomplishment, and effective leadership which generates enthusiasm and support. It is not certain, however, what the long-range effects of the situation will be since no long-term studies have been made involving the influence that crowding has on performance-productivity and the fact that the development of conditions at the Georgia Education Improvement Council are relatively recent.

VI. RECOMMENDATIONS

In light of the fact that the findings indicate a loss of agency efficiency caused by the spatial limitations of the work environment of the Georgia Education Improvement Council, the following recommendations are made:

1. Extend the office suite to include adjoining offices that are presently occupied by a neighboring agency. (The neighboring agency is scheduled to move to another location.)
2. Provide a separate office for each rearcher, a separate room for conferences, and a separate room for storage.
3. Establish a centralized location for general reference materials and provide an adequate work area.
4. Hire a part-time clerical typist to assist the staff with the workload during the legislative sessions.

APPENDIX A

GEORGIA EDUCATION IMPROVEMENT COUNCIL

No. 984 (Senate Bill No. 198)

An Act creating the Georgia Education Improvement Council and providing for appointment of members thereof; to provide for terms of members; to provide for ex-officio members; to define the purpose and function of the Council; to provide for organization and meetings of the Council; to provide for office space, and for employment of staff and consultants needed from funds made available to the Council; to provide for payment of per diem and reimbursement for expenses; to repeal conflicting laws; and for other purposes.

Be it enacted by the General Assembly of Georgia:

Section 1. To assure continued Statewide interest in a motivational force for the continued improvement of educational opportunities in Georgia, there is hereby created the Georgia Education Improvement Council which shall be composed of twelve (12) members, two (2) of whom shall not have voting rights. The members are as follows: The Chairman of the State Board of Education, the Chairman of the State Board of Regents, the Chairman of the Education Committee of the House of Representatives, the Chairman of the Educational Matters Committee of the Senate, the State Superintendent of Schools, the Chancellor of the University System of Georgia, and six influential and respected citizens from the State at large who have demonstrated knowledge of and interest in the educational opportunities of and the long-range educational problems confronting the State of Georgia and its citizens, to be appointed by the Governor for a four year term, except that initially two persons shall be appointed for one (1) year terms, two persons for two (2) year terms, one person for a three (3) year term, and one person for a four (4) year term, each of the said initial terms to date from July 1, 1964. Council members appointed from the public at large shall hold office for the term of their appointment and until their successors are appointed and qualify, and shall be eligible for reappointment. The State Superintendent of Schools and the Chancellor of the University System of Georgia shall have no voting rights.

Section 2. It shall be the purpose and function of the Council to study the constantly changing long-range educational needs in Georgia at all levels of education in Georgia and to advise, assist and cooperate closely with the Governor, the General Assembly, the State Board of Education, the State Board of Regents, and other appropriate agencies, both public and private, in developing plans and programs for meeting these educational needs, and the public educational institutions and agencies in Georgia and such public educational

bodies shall cooperate and work with the Council and provide the Council, upon request, such information and assistance as may be practicable and helpful to the Council in performing its purpose and function.

Section 3. The Council shall hold its first meeting as soon as practicable after formation and upon the call of the temporary chairman to be appointed by the Governor, and shall, at its first meeting elect a chairman, and proceed to organize itself in such manner as shall best be conducive to the accomplishment of its purpose and function. The Council shall meet at such regular times as it shall prescribe and upon call of the chairman or upon request to the chairman of a majority of the members of the Council.

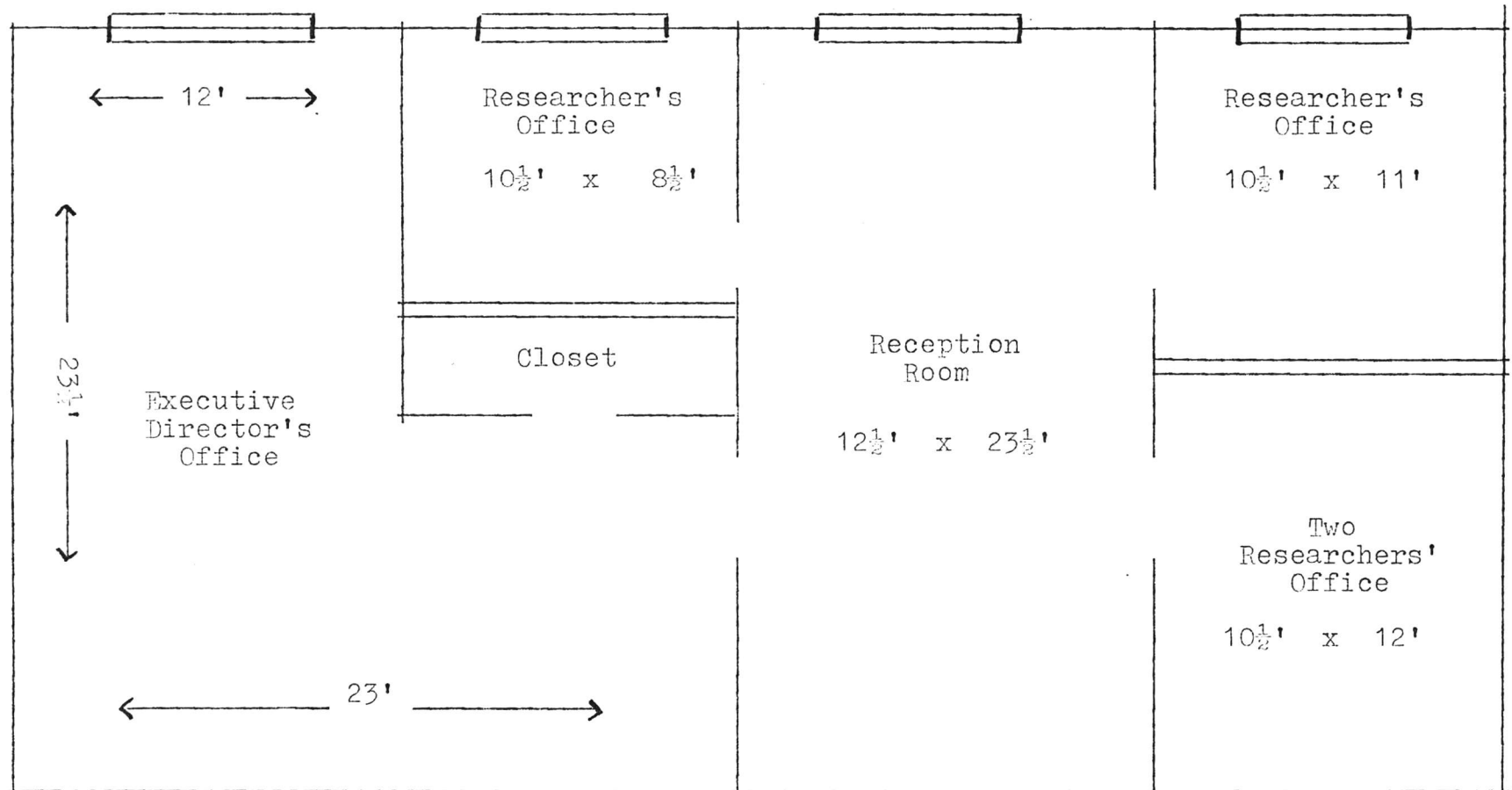
Section 4. The Governor shall provide the Council with such office space as may be necessary for the Council to perform its purposes and functions and the Council shall be authorized to employ such staff and consultants as may be reasonably necessary to carry out the purposes and functions of the Council from such funds as may be made available to the Council. Appointive members of the Council, and the members of the Council from the General Assembly, shall be entitled to receive per diem of twenty (\$20.00) dollars for every day traveling to and from and in attendance at meetings of functions of the Council, plus reimbursement for actual expenses necessarily incurred therewith. The other members of the Council shall not be entitled to receive per diem but shall be entitled to receive reimbursement for actual expenses necessarily incurred in connection with attendance at meetings or functions of the Council. Provided, nevertheless, that the funds for the Georgia Education Improvement Council shall be such only as are appropriated by separate line item by the General Assembly of Georgia based upon a budget request of such Council. In the event that any member of the Council is an officer or employee of any other branch of State Government he shall be compensated from the funds appropriated for the operation of that branch of which he is an employee or member. When such member is so compensated out of funds other than those appropriated to the Council, the Department or Agency paying such compensation shall notify the Budget Director and the State Treasurer and the appropriation of said Council shall be reduced in a like amount.

Section 5. All laws and parts of laws in conflict with this Act are hereby repealed.

Approved March 18, 1964.

APPENDIX B

DIAGRAM OF THE GEORGIA EDUCATION IMPROVEMENT COUNCIL
OFFICE FACILITY



APPENDIX C

QUESTIONNAIRE

DO NOT SIGN YOUR NAME

In order to complete the paper on my internship with the Georgia Education Improvement Council, I ask your cooperation. Please answer the following questions as candidly as possible. The information you provide will remain confidential and will, in no way, be quoted on an individual basis. All answers will be summarized based upon the total responses given by the entire staff.

PART I SATISFACTION (Check One)

- | | |
|--|--|
| 1. All in all, how satisfied are you with your job? | <input type="checkbox"/> very dissatisfied |
| | <input type="checkbox"/> dissatisfied |
| | <input type="checkbox"/> undecided |
| | <input type="checkbox"/> satisfied |
| | <input type="checkbox"/> very satisfied |
| 2. All in all, how satisfied are you with this agency? | <input type="checkbox"/> very dissatisfied |
| | <input type="checkbox"/> dissatisfied |
| | <input type="checkbox"/> undecided |
| | <input type="checkbox"/> satisfied |
| | <input type="checkbox"/> very satisfied |
| 3. How do you feel about your future with this agency? | <input type="checkbox"/> very dissatisfied |
| | <input type="checkbox"/> dissatisfied |
| | <input type="checkbox"/> undecided |
| | <input type="checkbox"/> satisfied |
| | <input type="checkbox"/> very satisfied |
| 4. How satisfied would you say you are with your pay? | <input type="checkbox"/> very dissatisfied |
| | <input type="checkbox"/> dissatisfied |
| | <input type="checkbox"/> undecided |
| | <input type="checkbox"/> satisfied |
| | <input type="checkbox"/> very satisfied |
| 5. How satisfied are you with your supervisor? | <input type="checkbox"/> very dissatisfied |
| | <input type="checkbox"/> dissatisfied |
| | <input type="checkbox"/> undecided |
| | <input type="checkbox"/> satisfied |
| | <input type="checkbox"/> very satisfied |

PART V ABOUT YOUR WORK You are asked to give two ratings:
Circle one number for each of the two following
points.)

- a. How much is there now connected with your job?
 - b. How much do you think should be connected with your job?
1. The opportunity for participating in the setting of goals, methods, and procedures

	MIN						MAX
1. How much is there now?	1	2	3	4	5	6	7
2. How much should there be?	1	2	3	4	5	6	7
 2. The interest from the work itself

	MIN						MAX
1. How much is there now?	1	2	3	4	5	6	7
2. How much should there be?	1	2	3	4	5	6	7
 3. The feeling of a satisfactory relationship with my supervisor

	MIN						MAX
1. How much is there now?	1	2	3	4	5	6	7
2. How much should there be?	1	2	3	4	5	6	7
 4. The feeling of worthwhile accomplishment in my job

	MIN						MAX
1. How much is there now?	1	2	3	4	5	6	7
2. How much should there be?	1	2	3	4	5	6	7
 5. The feeling of satisfactory relationships with my co-workers

	MIN						MAX
1. How much is there now?	1	2	3	4	5	6	7
2. How much should there be?	1	2	3	4	5	6	7
 6. The feeling of being informed in my job

	MIN						MAX
1. How much is there now?	1	2	3	4	5	6	7
2. How much should there be?	1	2	3	4	5	6	7
 7. The feeling of pride I have in the agency

	MIN						MAX
1. How much is there now?	1	2	3	4	5	6	7
2. How much should there be?	1	2	3	4	5	6	7

PART II COOPERATION AND COMMUNICATION (Circle One)

	LOW		AVG		HIGH
	1	2	3	4	5
1. How would you rate cooperation among the agency's staff members?					
2. How would you rate communication among the agency's staff members?					

PART III ATTITUDES TOWARD SUGGESTION MAKING (Check One)

1. Are people around here willing to accept suggestions you make?
- _____ never
 _____ seldom
 _____ sometimes
 _____ willing
 _____ very willing
2. Are people around here willing to accept suggestions others make?
- _____ never
 _____ seldom
 _____ sometimes
 _____ willing
 _____ very willing
3. Does your supervisor ask your opinion when a problem comes up that involves your work?
- _____ never
 _____ seldom
 _____ sometimes
 _____ often
 _____ always
4. How often do you offer suggestions about improving the operations of your job, work area, or agency?
- _____ never
 _____ seldom
 _____ sometimes
 _____ often
 _____ very often

PART IV PERFORMANCE (Circle One)

How would you rate yourself on the following dimensions?

	LOW		AVG		HIGH
	1	2	3	4	5
Quantity of work					
Quality of work					
Effort put into job					

8. The feeling of security in my job

	MIN						MAX
1. How much is there now?	1	2	3	4	5	6	7
2. How much should there be?	1	2	3	4	5	6	7

PART VI PRODUCTIVITY CHECKLIST INDICATOR (Place a checkmark in the blank beside each of the characteristics you believe describes you.)

1. Looks for improvement
2. Has record of accomplishments _____
3. Learns a new assignment quickly _____
4. Has a strong will to work, keeps busy _____
5. Has good work habits _____
6. Has a strong sense of commitment to completing work _____
7. Is cooperative in teamwork _____
8. Is open to ideas and listens well _____
9. Uses time efficiently _____
10. Takes initiative to do things _____
11. Is open-minded _____
12. Has a strong sense of urgency _____
13. Gets satisfaction from a job well done _____
14. Contributes beyond what is expected _____
15. Knows the job well _____
16. Sees things to be done and takes action _____
17. Is considered valuable by supervisor _____
18. Interacts effectively with other people _____
19. Understands organizations and their objectives _____
20. Believes in a fair day's work for a fair day's pay _____

APPENDIX D

PRODUCTIVITY CHECKLIST INDICATOR

Consider separately each of the six employees under your supervision. Using checkmarks, indicate in the columns below which of the listed characteristics you believe describe each person. DO NOT GIVE ANY NAMES.

	EMPLOYEES					
	1	2	3	4	5	6
1. Looks for improvement	_____	_____	_____	_____	_____	_____
2. Has record of accomplishments	_____	_____	_____	_____	_____	_____
3. Learns a new assignment quickly	_____	_____	_____	_____	_____	_____
4. Has a strong will to work, keeps busy	_____	_____	_____	_____	_____	_____
5. Has good work habits	_____	_____	_____	_____	_____	_____
6. Has a strong sense of commitment to completing work	_____	_____	_____	_____	_____	_____
7. Is cooperative in teamwork	_____	_____	_____	_____	_____	_____
8. Is open to ideas and listens well	_____	_____	_____	_____	_____	_____
9. Uses time well	_____	_____	_____	_____	_____	_____
10. Takes initiative to do things	_____	_____	_____	_____	_____	_____
11. Is open-minded	_____	_____	_____	_____	_____	_____
12. Has a strong sense of urgency	_____	_____	_____	_____	_____	_____
13. Gets satisfaction from a job well done	_____	_____	_____	_____	_____	_____
14. Contributes beyond what is expected.	_____	_____	_____	_____	_____	_____
15. Knows the job well	_____	_____	_____	_____	_____	_____
16. Sees things to be done and takes action	_____	_____	_____	_____	_____	_____

- | | | | | | | |
|-----|--|-------|-------|-------|-------|-------|
| 17. | Is considered valuable by supervisor | _____ | _____ | _____ | _____ | _____ |
| 18. | Interacts effectively with other people | _____ | _____ | _____ | _____ | _____ |
| 19. | Understands organizations and their objectives | _____ | _____ | _____ | _____ | _____ |
| 20. | Believes in a fair day's work for a fair day's pay | _____ | _____ | _____ | _____ | _____ |

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